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Feed Stuff Analysis

DEFINITIONS OF FEEDING STUFFS, Pages 24-29

THE FEEDING STUFFS LAW, Pages 30-31

H. B. McDONNELL, Professor in charge



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DEPARTMENT OF CHEMISTRY
UNIVERSITY OF MARYLAND
COLLEGE PARK MARYLAND

ANALYSES OF

Feeds Sold in Maryland

BY THE

UNIVERSITY OF MARYLAND

DEPARTMENT OF CHEMISTRY

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This bulletin contains the results of analysis of samples feeding stuffs obtained from June, 1921, to May, 1922, inclusive. The work of feed inspection was greatly increased by the more comprehensive law of 1920, covering practically all feeds, except "Whole seeds or grains". "The unmixed meals made directly from the entire grains of corn, wheat, rye, barley, oats, . . .," and "Materials containing 60 per cent. or more of water".

The samples examined were mostly drawn by regular inspectors from shipments made in Baltimore, or at dealers' warehouses, railroad stations, wharves, etc., in Baltimore and throughout the State.

FEED ANALYSIS.

A complete analysis of feed separates it into its constitutional parts, or groups of constituents having similar properties. The usual constituents are water, ash, protein, fat, fiber and nitrogen-free extract.

WATER is present in all feeds and is an important article of commerce in this way. Old grain, called "dry," will contain about 10 per cent., while new grain will contain more. If the amount is over 14 or 15 per cent. the grain or feed is very liable to mold and ferment. Fresh fruits and vegetables, as cabbage, turnips, etc., frequently contain over 90 per cent. of water. The water content of feed will change on storage, the amount of change depending on the condition at the start, method of storing, temperature and humidity of the air, etc. If

the feed has been kiln-dried, as with dried brewer's or distiller's grains, molasses feed, etc., gain in weight is common. This would be indicated if the packages weigh more than the guaranteed weight and, in that case, a corresponding decrease in the per cent. of the other constituents should be expected. On the other hand, should the material lose moisture, a corresponding increase in the per cent of the other constituents (but not in the actual amount) occurs.

The changes in moisture content are very important in connection with sampling and analysis and the proper care of samples for analysis—points which are liable to be entirely overlooked by those who have not been instructed in such matters

ASH, as its name indicates, is the part of the feed which remains after burning. It is the mineral part, which has its origin in the minerals of the earth (soil). All other parts of the feed have their origin, either directly or indirectly, from the air.

PROTEIN, or crude protein, is the nitrogenous part, calculated from the nitrogen by multiplying it by 6.25. It includes albumens and other nitrogenous bodies not so valuable as food. Protein is essential for the formation of flesh, nerves, hair, feathers, etc., in fact nearly all tissues of the animal body, except fat, and it may serve to form fat.

FAT, or "crude fat," is the ether extract obtained by treating the dry substance with ether. In the case of grains, seeds, nuts and flesh it is nearly pure fat and oil, but with hay, grasses and coarse fodders it contains considerable amounts of wax, gum, etc. It is often a valuable constituent of feed, is the most concentrated form of energy, and serves to build fat in the animal when in excess of its immediate energy requirements. Large amounts of fat are not tolerated by farm animals, as a rule.

FIBER, or "crude fiber," is the fibrous, woody part, not soluble in ether, dilute acid or alkali. It is largely indigestible, but serves to give the ration proper bulk. The digestibility varies with the nature of the fiber and the kind of animal. The amount of fiber is small in flesh, cereal grains and nuts, but large in stems, stalks, hays, straws, fodders, husks, hulls, cobs, etc., and its amount, as shown by analysis, indicates the presence of such materials.

NITROGEN-FREE EXTRACT, sometimes called "carbohydrates," or "soluble carbohydrates" (thereby excluding the fiber, which is an insoluble carbohydrate), is obtained by finding the amounts of the constituents enumerated above and subtracting this sum from 100 per cent. It includes starch, sugars, pentosans, etc., which may be determined separately.

For inspection purposes it is generally sufficient to determine the amount of protein, fat and fiber, as this will indicate if the feed has been adulterated with inferior coarse material, such as hulls, straws, cobs, etc., as such substances are low in protein and fat but high in fiber.

In the following table the analyses are given in percentage, or pounds in a hundred.

No.	Name of Manufacturer and Feeding Stuff.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40857	Acme Evans Co., Indianapolis.							
40858	Chick Feed	Cumberland	13.43	10.00	3.10	2.50	2.05	5.00
40859	C-O-B Chop	Oakland	9.04	10.00	3.40	4.00	11.00	9.00
40859	Akron Feed & Mill Co., Akron, Ohio.							
43115	Portage Stock Feed	Grantsville	10.02	9.00	3.40	4.00	12.01	9.00
43115	Alfocorn Milling Co., East St. Louis, Ill.							
40782	Horse and Mule Feed	Baltimore	11.14	9.00	1.75	1.50	12.35	15.00
40782	American Agricultural Chemical Co., Baltimore, Md.	Baltimore	54.23	55.00	15.75	10.00	2.45	6.00
40987	Protox Pure Ground Meat Scrap							
40812	American Cotton Oil Co., New York, N. Y.	Silver Spring	44.49	41.18	7.40	7.00	9.25	10.00
40899	"ACO" Cotton Seed Meal		40.63	36.00	8.10	5.50	10.45	14.00
40899	Surety Brand Cotton Seed Meal		19.04	17.00	9.40	5.00	6.80	7.00
40901	American Hominy Co., Indianapolis, Ind.		13.43	10.00	7.35	6.00	5.20	6.00
43170	Homcoline Feed							
43170	Homco Hominy Feed	Rocky Ridge	35.45	34.00	6.80	5.00	10.05	8.00
40699	American Linseed Co., New York, N. Y.	Fruitland	25.10	23.00	3.76	1.50	7.25	6.50
40784	American Maize Products Co., New York, N. Y.							
40785	Cream of Corn Gluten Feed	Laurel	28.56	25.00	5.25	5.00	9.40	8.00
40721	American Milling Co., Peoria, Ill.	Laurel	10.79	10.00	3.75	2.50	2.80	5.00
43116	Cluck Cluck Scratch Feed	Walkersville	37.82	36.00	7.81	5.50	9.15	15.00
40722	Old Process Linsced Meal & Screenings Oil Feed.	Baltimore	32.29	30.00	5.95	5.00	9.30	10.00
40813	Sucrene Dairy Feed	Walkersville	20.53	16.50	5.82	3.50	12.50	10.00
40883	Sucrene Poultry Mash	Linwood	21.59	18.00	4.70	3.50	6.75	10.00
40883	Tip Top Horse Feed with Alfalfa	Laurel	14.04	10.00	3.20	2.00	11.65	12.00

FEED STUFF ANALYSIS

		11.06	10.00	4.25	3.00	2.40	3.00
Anderson Bros. Co., Inc., York, Pa.							
40995	A. B. C. Chick Feed	9.38	10.00	2.95	3.00	6.25	14.00
40996	A. B. C. Horse Feed	23.52	16.50	4.30	3.50	8.95	10.00
40778	A. B. C. 16½% Dairy Feed	24.73	24.00	4.95	5.00	8.90	12.00
40779	A. B. C. 24% Dairy Feed						
	Arcady Farm Milling Co., Chicago, Ill.						
40916	Atlantic Poultry Feed	13.78	10.00	3.80	2.50	2.60	5.00
40917	Baby Chick Feed	13.95	10.00	2.52	2.50	2.30	5.00
40954	Buttermilk Egg Mash	24.75	20.00	5.40	4.50	8.05	9.00
43117	Buttermilk Growing Mash	18.08	17.00	3.50	4.00	9.75	8.00
40839	Dairy Feed	18.08	12.50	4.40	3.50	12.55	15.00
40918	Developing Feed	13.51	10.00	3.10	2.50	2.15	5.00
40841	Horse Feed	11.14	9.00	3.05	2.00	6.80	12.00
40955	Milk Ration	24.39	20.00	5.35	4.00	10.55	12.00
40919	Poultry Feed	26.59	21.00	3.70	2.50	2.95	5.00
40956	Producers Ready Ration	29.40	24.00	5.05	4.00	8.70	10.00
40957	Riverdale Dairy Ration	13.16	10.00	3.40	2.50	2.30	5.00
40921	Riverside Scratch Feed	14.92	10.00	3.75	2.50	2.75	5.00
40920	Sunkist Baby Chick Feed	13.69	10.00	4.30	2.50	1.90	5.00
40922	Sunkist Developing Feed	13.43	10.00	3.60	2.50	3.20	5.00
40923	Sunkist Poultry Feed						
	Archer Daniels Linseed Co., Buffalo, N. Y.						
40814	Old Process Ground Oil Cake	35.28	31.00	9.75	5.00	9.05	10.00
	Armour Fertilizer Works, Chicago, Ill.						
40974	Meat Meal	62.48	60.00	10.15	6.00	4.10	2.00
	Ashcraft Wilkinson Co., Atlanta, Ga.						
40850	Good Cotton Seed Meal	38.01	36.00	6.50	5.50	13.90	14.00
43175	Helmet Brand Cotton Seed Meal	41.24	41.00	6.40	6.00	14.42	10.00
	Aunt Jimena Mills Co., St. Joseph, Mo.						
40951	Hominy Feed	14.22	10.00	6.50	5.00	5.95	8.00
	Barber Milling Co., Minneapolis, Minn.						
43186	Bran Flakes	15.80	14.50	4.50	4.00	11.35	11.60
43153	Star Middlings	17.02	15.00	5.80	5.50	8.12	8.50
	M. F. Baringer, Philadelphia, Pa.						
40815	Pure Wheat Bran	18.08	15.00	4.20	4.50	9.90	12.00
	Fred. Bauernschmidt American Brewery, Balto., Md.						
43125	Dried Brewers Grains	27.88	25.00	6.65	5.00	17.25	13.00
	Baugh & Sons Co., Baltimore, Md.						
40849	Meat Meal	64.32	50.00	15.55	10.00	2.45	1.00

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40898	Bay State Milling Co., Winona, Minn.							
40816	Coarse Wheat Bran	Silver Spring	18.16	13.50	5.25	3.80	10.10	13.10
	Wheat Middlings		19.83	16.00	5.75	3.00	6.20	8.00
40882	Berg Co., Philadelphia, Pa.							
	3 Medal Poultry Meat	Berwyn	52.48	40.00	11.80	11.00	1.45	3.00
43098	J. B. Beshore, Vale, Md.	Vale						
	Dairy Feed		20.62	20.00	4.70	5.00	10.30	9.00
40942	Black Rock Milling Corp., Black Rock, N. Y.							
	Pontiac Scratch Feed		13.60	10.00	3.10	1.50	2.55	5.00
	Blamberg Bros., Baltimore, Md.							
43146	Cornell Brand Buttermilk Grower Feed	Baltimore	23.08	17.25	5.00	3.50	8.65	8.50
40758	Cornell Brand Buttermilk Chick Starter	Lineboro	16.58	12.50	4.33	3.50	5.45	7.00
40757	Cornell Brand Chick Developer	Lineboro	11.50	10.70	3.55	3.50	1.80	3.50
43147	Cornell Brand Chick Feed	Baltimore	10.18	10.70	1.55	8.50	2.17	3.50
40842	Cornell Brand Pigeon Feed	Westminster	17.72	16.00	2.20	3.00	3.20	4.00
43176	Exhnt Brand Scratch Feed	Denton	10.27	10.00	3.85	3.00	3.70	4.50
40759	Poultry & Pigeon Feed	Lineboro	13.86	10.70	4.30	8.50	3.40	3.50
	Blamberg-Bixler Co., Baltimore, Md.							
43149	B-B-L Beef Brand Scraps for Poultry	Baltimore	45.19	55.00	18.75	13.00	3.35	3.00
40724	Blank & Gottshall, Sunbury, Pa.	Frederick						
	Baby Chick Feed		15.62	14.00	4.13	4.00	3.05	4.00
	Blatchford Calf Meal Co., Waukegan, Ill.							
40965	Calf Meal							
40364	Chick Mash		28.08	24.00	5.02	5.00	6.74	6.75
43118	Egg Mash		24.57	20.00	5.05	4.00	4.90	7.50
40966	Fill-the-Basket Egg Mash	Baltimore	20.01	19.00	4.75	4.00	8.10	10.00
			24.75	19.00	5.50	4.00	7.35	10.00
40967	Pig Meal		24.04	18.00	5.55	5.00	6.60	7.00

40967 Pig Meal 24.04 18.00 5.55 5.00 6.60 7.00

FEED STUFF ANALYSIS

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43138	J. Bolgiano Seed Co., Baltimore, Md.	Baltimore	10.27	10.00	2.50	3.00	2.02	3.00
43139	Chick Developer	Baltimore	10.27	10.00	4.35	3.00	2.10	3.00
43077	Square Deal Baby Chick Feed	Baltimore	23.17	18.00	5.50	4.00	7.80	10.00
43140	Square Deal Buttermilk Laying Mash	Baltimore	15.09	12.50	5.70	4.00	3.10	4.50
43141	Square Deal Buttermilk Starting Feed	Baltimore	54.67	55.00	10.35	10.00	3.27	1.00
43142	Square Deal Ground Beef Scrap	Baltimore	15.01	16.00	5.65	3.00	5.77	4.00
43078	Square Deal Pigeon Feed	Baltimore	10.09	9.00	2.65	2.00	2.01	5.00
	Square Deal Scratch Feed	Baltimore						
	Buckeye Cereal Co., Massillon, Ohio.							
40903	Pure Wheat Bran		17.29	15.00	5.57	4.50	8.60	12.00
40904	White Wheat Middlings		19.13	15.60	4.60	4.50	4.75	4.90
43028	Buckeye Cotton Oil Co., Cincinnati, Ohio.		37.73	36.00	6.70	5.00	12.20	14.00
40725	Good 36% Cottonseed Meal							
	Cannon Valley Milling Co., Minneapolis, Minn.							
	Wheat Stand Middlings with Gr'd Screenings	Frederick	20.09	15.50	6.47	4.00	7.90	10.50
40726	Capital City Milling & Grain Co., St. Paul, Minn.							
	Wheat Mixed Feed with Screenings	Woodsboro	18.43	15.70	5.15	4.60	5.10	8.80
	Chapin & Co., Chicago, Ill.							
40969	Ajax Dairy Ration		25.27	20.00	6.05	5.00	8.55	9.00
40970	Bicorn Hog Feed		20.97	17.50	4.20	4.00	4.05	6.00
40971	Centaur Feed		16.06	12.00	4.85	4.00	7.65	8.00
40972	Dried Beet Pulp		12.02	8.00	.70	.50	20.35	20.00
40973	O. V. O. Laying Mash		22.82	18.00	6.25	4.50	6.85	8.00
40774	Unicorn Dairy Ration	Baltimore	24.04	24.00	6.20	4.50	8.80	10.00
	Clinton Corn Syrup Refining Co., Clinton, Iowa.							
43119	Corn Gluten Feed	Baltimore	23.08	23.00	2.95	2.00	7.60	8.00
	Clover Leaf Milling Co., Buffalo, N. Y.							
43093	Black Beauty Horse Feed		10.09	10.00	2.45	2.00	8.75	12.00
43096	Buttermilk Egg Mash		20.18	18.00	5.85	4.00	9.70	11.00
40727	Calf Meal	Frederick	25.97	25.00	6.10	5.00	5.40	7.00
40760	Dairy Feed	Lineboro	17.04	16.00	5.38	4.00	8.85	14.00
43187	Dried Beet Pulp	Walkersville	10.97	8.00	1.25	.50	19.95	20.00
43094	Horse Feed		9.18	10.00	2.10	2.00	8.40	12.00
43097	Master Grain Ration		26.76	24.00	6.25	5.00	8.40	10.00
40761	Old Colony Feed for Dairy Cows	Lineboro	20.09	20.00	4.30	3.50	8.95	12.00
40762	Peerless Milk Rations	Lineboro	20.36	20.00	6.05	4.50	11.02	12.00
43171	Peerless Scratch Grains	Motters	10.02	10.00	3.40	2.50	2.82	5.00
	Commander Mill Co., Minneapolis, Minn.							
	Pure Durum Wheat Bran	Catonsville	18.69	11.50	6.01	4.00	10.15	13.50

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40911	G. E. Conkey Co., Cleveland, Ohio.		21.94	18.00	4.95	4.00	4.70	5.00
40912	Buttermilk Meat Grain & Growing Mash.		22.64	18.00	5.65	4.00	5.01	6.00
40913	Buttermilk Meat Grain & Laying Mash.		17.72	12.00	6.02	3.00	3.55	4.00
40860	Buttermilk Grain & Bone Starting Feed.	Hagerstown	12.55	10.00	2.35	3.00	2.55	3.00
40885	Scratch Grains							
40885	Consolidated Dressed Beef Co., Philadelphia, Pa.		45.19	45.00	14.95	12.00	1.05	2.00
40907	Beef and Bone Scrap	Laurel	36.51	40.00	13.80	12.00	6.10	3.00
40907	Digester Tankage							
40700	Corn Products Refining Co., New York, N. Y.							
40985	Buffalo Corn Gluten Feed	Pocomoke	28.03	28.00	3.54	1.00	8.65	8.50
40786	Diamond Corn Gluten Meal		48.02	40.00	3.55	1.00	1.65	4.00
40927	Diamond Hog Meal	Hyattsville	23.42	18.00	8.15	7.00	9.40	13.00
40927	Curtiss Grain Corp., Buffalo, N. Y.							
40927	Calf Meal		23.96	20.00	4.75	5.00	5.65	5.00
40928	Dairy Ration		26.68	20.00	6.30	5.00	11.45	10.00
40929	Daylay Egg Mash		22.73	20.00	4.60	4.00	7.95	10.00
40930	Spur Scratch Feed		13.08	10.00	3.70	4.00	3.65	5.00
40931	Wheat Flour Middlings		18.78	12.00	4.20	2.00	5.15	5.00
40728	C. E. Davis Packing Co., Fleeton, Va.							
40728	Chesapeake Fish Meal	Frederick	61.69	50.00	10.50	8.00	.95	6.00
40843	S. P. Davis, Little Rock, Ark.							
40843	Good Luck Cotton Seed Meal	Mt. Airy	43.88	41.00	7.25	6.00	8.45	9.00
43159	D. W. Detrich & Co., Philadelphia, Pa.							
43159	Wheat Bran	Frederick	16.23	14.00	4.35	4.00	9.70	11.00
43121	Albert Dickinson Co., Chicago, Ill.							
43121	Corn Feed Meal	Baltimore	9.74	7.00	4.70	2.50	3.10	5.00
40909	Globe Egg Mash		21.59	20.00	5.70	5.00	8.90	10.00

40908	Globe Scratch Feed		12.81	10.00	3.10	2.50	3.25	5.00
40010	Disc. Tree Scratch Feed							

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	12.81	10.00	3.10	2.50	3.25	5.00
40908 Globe Scratch Feed	12.81	10.00	3.10	2.50	3.25	5.00
40910 Pine Tree Scratch Feed	12.55	10.00	3.35	2.50	3.10	5.00
43122 Queen Poultry Mash	13.25	11.00	3.30	2.50	9.50	10.00
43123 Rival Scratch Feed	10.53	9.50	3.55	2.50	3.25	5.00
Dixie Mills Co., East St. Louis, Ill.						
40701 Horse & Mule Feed	11.64	10.00	2.52	2.50	10.80	12.00
Jacob Dold Packing Co., Buffalo, N. Y.						
43072 Quality Digestor Tankage	68.01	60.00	7.30	8.00	2.30	5.00
43073 Quality Meat & Bone Scraps	51.33	50.00	11.70	8.00	4.70	5.00
Donahue-Stratton Co., Milwaukee, Wis.						
40906 Dried Grains	24.57	20.00	7.55	5.00	18.05	21.00
Duluth-Superior Milling Co., Duluth, Minn.						
40925 Diamond S Middlings	21.41	16.50	4.90	4.50	8.10	8.50
40924 Imperial Bran	20.36	15.00	4.90	4.00	9.95	11.50
40926 Red Dog	22.55	16.00	4.65	4.00	3.40	3.50
Eagle Roller Mill Co., New Ulm, Minn.						
40988 Bran	16.94	14.00	5.15	3.40	8.90	12.00
40989 Standard Middlings	20.01	14.00	4.65	4.00	7.65	11.00
40702 Superb Red Dog Hog	19.04	17.00	4.93	5.00	3.02	7.40
Early & Daniel Co., Cincinnati, Ohio.						
43007 Ce-Re-A-Lia Egg Mash	22.46	20.00	6.90	5.00	7.15	7.50
43006 Ce-Re-A-Lia Sweets	20.80	20.00	4.53	4.50	8.40	10.00
43008 Eadan Scratch	10.09	10.00	3.20	2.50	2.15	5.00
43009 Tuxedo Chop	10.88	10.00	3.40	3.00	7.75	12.00
43010 Tuxedo Hog Ration	17.11	14.50	4.05	3.50	5.50	7.00
43011 Tuxedo Scratch	11.58	10.00	3.02	2.50	2.25	5.00
East Coast Trading Co., Baltimore, Md.						
43203 E-C Pure Fish Meal	59.84	56.00	9.80	8.00	.73	.75
Eastern Cotton Oil Co., Norfolk, Va.						
40763 Cotton Seed Meal	42.56	41.00	5.57	5.50	10.01	10.00
43095 Peanut Meal	46.02	46.00	9.15	7.00	7.40	6.00
40936 Supreme Cotton Seed Meal	34.50	36.00	6.02	5.00	16.80	14.00
B. A. Eckhart Milling Co., Chicago, Ill.						
40764 Rye Middlings	16.23	14.50	3.56	3.00	4.90	7.00
Empire Cotton Oil Co., Atlanta, Ga.						
43079 Peanut Meal	42.82	45.00	8.75	6.50	13.50	14.00
John W. Eshelman, Lancaster, Pa.						
40729 Calf Meal	24.57	16.00	4.50	3.00	3.75	2.00
40730 Chick Feed	12.46	10.00	4.11	3.00	2.30	3.00
Baltimore						
Baltimore						
Pocomoke						
Pocomoke						
Sparks						
Alesia						
Aberdeen						
Lineboro						
Baltimore						
Frederick						
Frederick						

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
John W. Eshelman, Lancaster, Pa. (Contd.)								
43124	Dairy Feed, 15%	Baltimore	19.13	15.00	5.45	4.00	9.95	10.00
40731	Dairy Feed, 16½%	Frederick	19.58	16.50	4.47	3.50	9.60	10.00
40732	Dairy Feed, 20%	Frederick	22.11	20.00	4.53	4.00	10.30	12.00
40733	Grain Horse Feed	Frederick	10.35	10.00	3.72	2.50	9.50	14.00
40734	Growing Mash	Frederick	18.60	18.00	5.93	4.00	5.55	8.00
40703	Hog Meal	Pocomoke	17.20	16.00	6.49	5.00	6.40	6.00
40735	Laying Mash	Frederick	21.76	20.00	5.56	5.00	4.75	7.00
40737	Meat & Bone Scrap	Frederick	48.44	50.00	13.40	10.00	1.40	2.00
40738	Pensy Scratch Feed	Frederick	11.14	10.00	3.25	3.00	1.35	4.00
43193	White Middlings with Screenings	Bucklodge	16.67	16.00	5.01	4.00	7.27	9.00
Everett Aughenbaugh, Waseca, Minnesota.								
43157	Pure Wheat Bran	Frederick	17.55	14.50	5.10	4.00	9.75	11.00
Farmers' Milling & Grain Co., Mt. Airy, Md.								
40804	Bran	Ellicott City	17.02	15.50	5.00	4.00	9.65	9.00
Farmers' Supply Co., Denton, Md.								
43177	Quality Laying Mash	Denton	21.41	20.00	6.30	5.00	6.97	7.00
43178	Quality Scratch Feed	Denton	10.35	10.00	3.05	3.00	3.65	4.00
Federal Milling & Refrigerating Co., Hagerstown, Md.								
43173	Soft Winter Wheat Middlings	Thurmont	16.15	15.50	5.25	4.00	5.55	9.00
Frederick City Milling Co., Frederick, Md.								
43188	Bran	Walkersville	15.62	15.50	3.95	4.00	9.17	9.00
43189	Wheat Middlings	Walkersville	17.72	16.00	4.15	4.00	5.45	6.00
Frederick Co. Farmers' Exchange, Frederick, Md.								
40739	Chick Feed	Frederick	11.14	10.00	3.30	3.00	1.85	3.00
40848	Gambrill's A 1 Dairy Ration	Sykesville	29.31	25.00	5.02	6.00	9.20	9.00
40740	Gambrill's Buttermilk Laying Mash	Frederick	21.60	18.00	.98	3.50	4.15	8.00
40852	Gambrill's Dairy Feed	Frederick	20.80	16.50	5.55	5.00	11.75	12.00

40740	Gambrell's Buttermilk Laying Mash	21.60	18.00	.98	3.50	4.15	8.00
40852	Gambrell's Dairy Feed	20.80	16.50	5.55	5.00	11.75	12.00
43194	Hog Feed	20.01	18.00	7.60	4.00	6.90	7.00
40741	Scratch Feed	15.09	10.00	4.25	3.00	2.75	3.00
43168	Special Dairy Feed	7.46	10.00	3.02	2.50	16.95	17.00
43195	Wheat Bran	17.64	15.50	4.55	4.00	8.72	9.00
43064	Fuhrmann & Schmidt Brewing Co., Inc., Shamokin, Pa.	19.66	25.00	5.30	5.69	21.50	15.57
43135	Brewer's Dried Grains	10.27	10.00	3.20	2.50	2.45	5.00
43080	Galesburg Molasses Feed Co., Galesburg, Ill.	25.62	25.00	7.02	6.00	8.20	9.00
43081	Gamro Scratch Feed	16.01	16.50	5.75	4.00	8.03	14.00
43082	A. I. Dairy Feed	9.21	10.00	2.90	3.00	7.80	17.00
43137	Alice Anna Dairy Feed	8.95	10.00	2.60	2.50	5.45	20.00
40845	Alice Anna Horse Feed	15.97	15.00	5.10	4.00	8.55	9.50
40775	Canton Stock Feed	15.71	14.50	4.15	4.00	8.95	9.50
40886	C. A. Gambrell Manufacturing Co., Baltimore, Md.	20.18	16.50	5.55	5.00	5.55	3.25
43190	Patapsco Mill Feed	15.45	15.50	4.88	4.00	11.55	9.00
43191	Pure Wheat White Middlings	16.01	16.00	4.60	4.00	5.92	6.00
40861	Glade Valley Milling Co., Walkersville, Md.	26.50	22.00	3.62	3.50	11.20	9.00
43172	Golden Grain Mill Co., East St. Louis, Ill.	35.80	33.00	7.75	5.00	10.66	10.00
43120	Wm. O. Goodrich Co., Milwaukee, Wis.	11.14	9.00	2.90	2.00	9.65	14.00
43126	Grain Belt Mills Co., St. Joseph, Mo.	36.01	36.00	5.40	4.00	13.95	12.00
43143	Hunter Horse and Mule Feed	36.24	36.00	5.95	5.50	16.95	14.00
40720	Vernon M. Green & Co., Washington, D. C.	49.49	45.00	11.74	12.00	1.60	1.00
40787	Green-Miller Co., Atlanta, Ga.	11.23	10.00	3.55	2.50	2.35	6.00
40818	Good Cotton Seed Meal	19.74	16.00	5.50	4.00	8.30	8.00
40819	Greenwood Roller Mills, Greenwood, Del.	21.24	17.00	6.10	5.00	3.75	5.00
40821	Beef Scraps	12.02	10.00	3.02	2.50	1.85	5.00
40787	Hales & Hunter Co., Chicago, Ill.	20.36	20.00	6.05	4.50	5.15	9.00
40788	Morning Glory Scratch Feed	11.67	10.00	2.75	2.50	2.95	5.00
40818	Pioneer Hog Feed with Dried Buttermilk						
40819	Red Comb Chick Mash with Buttermilk						
43136	Red Comb Coarse Chick Feed						
40821	Red Comb Eggs Mash with Buttermilk						
40821	Red Comb Scratch Feed						
	Boyd's						
	Frederick						
	Frederick						
	Dickerson						
	Baltimore						
	Baltimore						
	Baltimore						
	Baltimore						
	Sykesville						
	Baltimore						
	Hyattsville						
	Walkersville						
	Woodsboro						
	Oakland						
	Motters						
	Baltimore						
	Baltimore						
	Frederick						
	Denton						
	Berwyn						
	Berwyn						
	Silver Spring						
	Silver Spring						
	Baltimore						
	Silver Spring						

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40805	Hammond Milling Co., Hoods Mills, Md. Bran	Ellicott City	16.15	15.50	4.60	4.00	8.20	9.00
40822	S. W. Hershey, York, Pa. Pure Wheat Bran	Taneytown	16.42	12.20	4.65	3.70	10.35	11.00
43113	W. S. Hoge & Bro., Washington, D. C. Best Dairy Feed	Bel Air	25.89	25.00	5.15	5.00	9.45	10.00
40771	Columbia Dairy Feed	Bel Air	22.71	20.00	5.40	4.00	9.02	12.00
40789	High Grade Meat Meal	Beltsville	55.19	55.00	13.77	10.00		
40887	Milk Maker Dairy Ration	Beltsville	18.78	16.00	7.35	4.50	11.35	12.00
43038	Poultry Feed	Beltsville	9.83	10.00	4.30	3.00	2.40	4.00
40958	H-O Cereal Co., Inc., Buffalo, N. Y. Laying Mash		20.53	17.00	5.10	4.50	4.20	6.00
40960	Medium Cracked Scratching Feed		13.43	11.00	2.75	3.50	2.25	6.00
40959	Special Algrane Scratching Feed		13.78	11.00	3.60	3.50	3.35	6.00
40961	Steam Cooked Chick Feed		14.13	12.00	3.90	3.00	1.65	4.00
40900	Ideal Rendering Co., North Wales, Pa. Meat Scraps		52.47	50.00	14.30	14.00	1.30	2.00
43204	Illinois Feed & Elevator Co., Bloomington, Ill. Hampstead Dairy Feed	Bel Air	22.03	22.00	6.40	5.00	10.65	10.00
40986	International Glue Co., East Boston, Mass. Red Star Brand Fish Scrap		45.54	45.00	1.25	2.00	2.55	1.00
43035	International Milling Co., New Prague, Minn. Black Hawk Flour Middlings		17.81	15.00	4.10	3.50	3.85	4.75
40823	Black Hawk Pure Wheat Bran		19.48	14.50	4.45	3.00	9.80	12.00
43036	Black Hawk Special Middlings	Taneytown	18.02	15.00	4.75	3.75	5.85	5.75
43037	Black Hawk Wheat Standard Middlings		17.46	15.00	4.75	4.50	7.65	9.20
	International Sugar Feed Co., Minneapolis, Minn.							

		30.89	25.00	6.15	5.00	7.70	10.00
40946	Calf Meal	16.50	12.50	6.75	4.00	12.15	13.50
40947	Climax Dairy Feed	24.60	24.00	5.70	5.00	9.30	10.00
40704	Diamond Dairy Feed	11.06	9.50	4.16	3.50	7.95	9.00
40790	Horse Feed	15.18	10.50	5.20	4.00	13.20	15.00
40948	Minnesota Dairy Feed	22.55	18.00	5.05	5.50	6.30	10.00
40950	Pig Meal	16.41	10.00	2.95	2.50	4.40	5.00
40949	Poultry Feed	22.38	20.00	6.75	5.00	9.30	11.56
40806	Ready Ration	16.67	15.00	5.95	4.50	11.60	12.00
40807	Special Dairy Feed						
	International Sugar Feed No. 2 Co., Memphis, Tenn.						
40705	Dan Patch Horse Feed	12.89	9.00	3.38	2.25	12.55	12.50
43074	Honor Horse Feed	10.02	10.00	2.85	3.00	5.50	10.00
40706	Jewel Dairy Feed	9.47	9.00	2.95	2.00	13.50	15.00
43076	Jewel Egg Mash	18.69	18.00	7.05	5.00	7.90	11.00
43075	Jewel Hen Feed	10.09	10.00	3.02	3.00	2.04	5.00
40707	Milk Made Dairy Feed	26.68	24.00	5.77	5.00	6.60	15.00
	Ismert-Hinkle Milling Co., Kansas City, Mo.						
40824	A. B. C. Middlings	17.81	16.00	3.95	3.50	3.95	8.00
40825	Wheat Bran	19.48	14.50	4.60	3.50	8.90	11.00
	R. D. Johnson Milling Co., Cumberland, Md.						
40862	Corn, Oats and Barley	12.20	9.51	4.17	4.15	11.02	10.25
	Kansas Flour Mills Co., Kansas City, Mo.						
43045	Brown Wheat Shorts and Wheat Screenings	17.02	16.00	3.80	3.50	5.55	8.00
43044	Wheat Bran and Wheat Screenings	16.67	14.50	3.85	3.50	10.45	11.00
	Chas. A. Krause Milling Co., Milwaukee, Wis.						
43127	Badger Cream City Dairy Feed	19.66	20.00	3.90	4.50	14.10	11.00
40708	Badger Dairy Feed	17.81	16.50	5.18	3.50	17.80	18.00
40846	Badger Growing Mash	22.29	17.00	5.95	5.00	6.80	6.50
43169	Badger Homco Hog Feed	14.57	13.00	6.75	6.00	5.55	4.50
43128	Badger Pep Horse Feed	11.85	10.00	2.75	3.00	6.75	10.00
43196	Blue Top Laying Mash	20.27	20.00	5.02	5.00	6.90	7.00
43129	Cream City Scratch Feed	9.74	9.00	2.90	1.50	2.15	5.00
43197	Fancy Middlings	12.02	12.00	3.75	3.50	3.82	4.00
	Ladish Milling Co., Milwaukee, Wis.						
40888	Alfa Brand Dairy Feed	17.81	14.00	1.55	1.00	31.35	33.00
40977	Corn and Oat Chop	13.95	9.50	3.70	3.50	7.70	10.00
40791	Corn Feed Meal	10.01	8.00	5.90	3.50	3.20	4.00
40780	Flour Middlings	18.52	14.00	5.65	3.50	6.15	10.00
40981	National Scratch Feed	12.64	9.00	3.85	3.00	2.60	4.00
	Easton						
	Laurel						
	Walkersville						
	Walkersville						
	Conowingo						
	Conowingo						
	Conowingo						
	Barnesville						
	Barnesville						
	Cumberland						
	Baltimore						
	Trappe						
	Westminster						
	Motters						
	Baltimore						
	Germanatown						
	Baltimore						
	Germanatown						
	Hyattsville						
	Berwyn						
	Parkton						

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
Ladish Milling Co., Milwaukee, Wis. (Continued.)								
43164	Record Maker Dairy Feed	Myersville	25.27	24.00	6.95	4.50	11.05	12.00
40982	Record Maker Scratch		13.69	9.00	3.25	3.00	3.02	4.00
40979	Standard Wheat Middlings		17.38	14.00	4.80	3.50	10.85	13.00
40781	Standard Wheat Bran		17.81	14.00	4.20	3.50	9.50	13.00
40978	Standard Wheat Red Dog	Parkton	18.52	15.00	3.55	3.50	3.40	6.00
40792	True Value Dairy Feed		25.97	24.00	7.20	5.00	8.85	10.00
40983	True Value Developer		13.08	9.00	3.60	4.00	2.55	4.00
40980	True Value Hominy Feed		11.67	9.50	5.90	4.00	2.45	5.00
40889	True Value Horse Feed	Berwyn	12.93	9.00	2.95	3.00	7.35	12.00
40890	True Value Poultry Mash		24.13	20.00	5.40	5.00	9.15	11.00
40984	True Value Rye Middlings		20.18	13.50	3.50	3.00	4.75	7.50
40891	True Value Scratch Feed		13.51	9.00	3.02	5.00	2.70	3.00
Lake Erie Milling Co., Toledo, Ohio.								
43130	Molletts Flaked Oats and Corn Chop	Baltimore	10.02	10.00	3.85	4.00	4.05	9.00
La Grange Mills, Red Wing, Minn.								
40962	Fine Middlings and Ground Screenings	Baltimore	22.38	15.00	5.90	4.20	8.15	9.00
40963	Pure Bran		18.78	14.00	4.80	3.00	11.20	13.30
Lancaster Mill & Elevator Co., Lancaster, Pa.								
40799	Conestoga Dairy Feed	Pocomoke	21.67	16.50	6.85	3.50	9.35	10.00
40800	Dairy Feed	Pocomoke	26.06	20.00	6.50	4.00	8.60	12.00
43131	Liberty Horse Feed	Baltimore	7.55	7.00	2.10	2.00	8.80	10.00
40801	Red Rose Dairy Feed	Pocomoke	28.87	24.00	6.25	5.00	8.15	12.00
40892	Red Rose Horse Feed	Hyattsville	12.32	10.00	2.95	3.00	7.30	14.00
43150	Special Horse Feed	Annapolis	9.83	10.00	2.73	2.50	7.25	14.00
43179	Scratch Feed	Goldsboro	11.67	10.00	3.75	3.00	3.07	4.00
Larabee Flour Mills Corp., Kansas City, Mo.								

Larabee Flour Mills Corp., Kansas City, Mo.

FEED STUFF ANALYSIS

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40863	Grey Middlings	Grantsville	22.82	17.00	5.80	4.50	5.05	5.50
40864	Wheat Bran	Grantsville	19.31	15.00	4.63	3.50	9.55	10.00
40736	Larowe Milling Co., Detroit, Mich.							
40994	Big Six Dairy Feed	Frederick	22.90	21.00	5.70	4.00	7.85	12.00
40843	Choice Cottonseed Meal		43.35	43.00	8.80	6.00	8.40	10.00
40744	Dried Beet Pulp	Frederick	9.88	8.00	.57	.50	19.15	20.00
40865	Larro Feed for Dairy Cows	Woodsboro	20.80	20.00	4.75	3.00	11.05	14.00
	Larro Hog Feed	Cumberland	24.31	15.00	5.20	5.00	8.40	10.00
43050	Lawrenceburg Roller Mills Co., Lawrenceburg, Ind.							
43051	Snowflake Bran and Ground Screenings		16.23	15.00	4.10	3.00	11.10	11.00
43052	Snowflake Middlings and Ground Screenings		17.55	16.50	5.05	4.50	6.75	7.00
	Snowflake Mixed Feed and Ground Screenings		16.67	16.00	4.30	3.50	8.70	9.00
40709	John L. Lewis & Bro. Co., Philadelphia, Pa.							
	Linseed Cake Meal	Pocomoke	32.03	31.00	6.70	4.00	9.15	10.00
43165	Louisville Milling Co., Louisville, Ky.							
	Sonny South Pure Wheat Bran	Myersville	16.50	14.50	4.25	4.00	10.12	8.75
40765	L. B. Lovitt & Co., Memphis, Tenn.							
40826	Memphis Brand Cotton Seed Meal	Detour	39.31	38.50	6.65	5.50	10.10	12.00
	36% Brand Cotton Seed Meal	New Windsor	37.25	36.00	6.60	5.00	11.95	14.00
40932	Mann Bros. Co., Buffalo, N. Y.							
	Pure Old Process Linseed Oil Meal		37.47	33.00	6.85	6.00	8.60	10.00
43018	Maritime Trading Corp., Buffalo, N. Y.							
	Bull Brand Dairy Ration		25.80	24.00	5.50	6.00	10.55	12.00
40710	Mennel Milling Co., Toledo, Ohio.							
	Middlings	Pocomoke	18.43	15.00	4.85	4.00	5.20	8.50
40711	Midland Linseed Products Co., Minneapolis, Minn.							
	Old Process Ground Linseed Cake	Fruitland	30.01	30.00	9.13	5.00	8.30	8.50
43047	Miller-McConnell Grain Co., Kansas City, Kansas.							
43048	Big Boy Horse and Mule Feed		11.06	9.00	3.40	2.00	6.50	10.00
43046	Grade A Scratch Feed		10.18	10.00	4.08	2.50	3.70	4.50
43049	Nutrena Scratch Feed		11.06	10.00	3.02	2.50	2.75	4.50
	Rich Grain Scratch Feed		10.44	10.00	4.45	2.50	3.50	4.50
43083	Mutual Renedring Co., Inc., Philadelphia, Pa.							
	50% Meat and Bone Scraps		47.30	50.00	14.10	10.00	2.50	2.00
43198	Natural Feed Co., St. Louis, Mo.							
	Wheat Bran	Silver Spring	15.01	14.50	3.80	4.00	9.47	10.00
43111	Newsome Feed & Grain Co., Pittsburgh, Pa.							
	Palmo Midds	Baltimore	18.04	16.00	9.30	7.00	8.50	9.00

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
Norfolk Tallow Co., Norfolk, Va.								
40712	Notalco AA Meat Scraps for Poultry.....	Pocomoke	46.33	45.00	12.07	5.00	2.25	3.00
40939	AA H. G. Meat Scraps		45.63	45.00	12.02	5.00	1.60	3.00
43114	50% Digester Tankage		52.30	50.00	8.95	2.00	2.40	3.50
40938	Extra Quality Meat Scraps		55.46	55.00	11.85	5.00	2.20	3.00
43152	Granulated Bone		25.62	20.00	.40	2.00	2.55	3.00
40941	Raw Bone Meal		28.70	20.00	3.40	2.00	1.95	3.00
Northwestern Consolidated Milling Co., Minneapolis, Minn.								
40998	Plant Feed	Taneytown	18.08	15.00	5.45	4.00	6.90	8.00
40827	Pure Wheat Bran		17.02	13.00	5.40	4.00	11.30	13.00
40997	Wheat Flour Middlings		18.95	15.00	5.90	4.00	5.50	8.00
43000	Wheat Mixed Feed		18.52	15.00	5.55	4.50	8.01	10.00
40999	Wheat Standard Middlings		16.67	14.00	6.30	4.00	9.90	11.00
40776	XXX Comet		19.13	16.00	5.07	4.00	2.05	4.00
Nowak Milling Corp., Buffalo, N. Y.								
40990	Domino Laying Mash	Baltimore	23.17	20.00	4.85	3.00	6.95	10.00
40991	Export Scratch Feed		13.60	9.00	3.60	2.50	2.60	6.00
40992	Fidelity Horse Feed		12.46	7.00	4.30	3.00	12.90	14.00
43053	Marathon Scratch Feed		10.09	10.00	3.38	3.00	3.45	5.00
40993	Union Dairy Feed		15.71	14.00	5.25	3.50	10.80	15.00
Nuttall Milling Co., Denton, Md.								
43180	Ideal Growing Mash	Denton	16.67	16.00	4.90	4.50	4.17	5.00
43181	Ideal Laying Mash	Denton	21.41	20.00	5.40	5.00	6.75	7.00
43182	Ideal Scratch Feed	Denton	10.88	10.00	4.30	4.00	4.00	4.50
Geo. F. Obrecht, Baltimore, Md.								

10.00

8.40

1.50

2.32

9.74

9.00

10.00

10.88

5.40

4.30

16.67

21.41

10.88

10.00

4.30

5.40

4.90

15.71

10.09

12.46

13.60

23.17

19.13

16.67

18.52

FEED STUFF ANALYSIS

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		9.74	9.00	2.32	1.50	8.40	10.00
43132	Special Horse Feed						
	P. F. Obrecht & Son, Baltimore, Md.						
43144	Chick Food	11.41	10.00	3.40	3.00	4.17	6.00
43102	Dairy Ration	23.17	23.00	5.01	4.00	11.20	12.00
43145	Laying Mash	23.87	20.00	6.10	3.50	10.60	10.00
43103	Molasses Horse Feed	10.05	9.00	3.70	1.00	8.40	15.00
43104	Poultry Mash	25.01	20.00	6.15	3.50	7.05	10.00
43105	Scratch Food	9.56	10.00	1.80	3.00	1.75	6.00
43106	Special Scratch Feed	11.14	9.00	2.80	3.00	2.95	6.00
	Omaha Flour Mills, Omaha, Nebraska.						
43167	Pure Wheat Bran	15.88	14.50	4.75	3.50	11.35	11.00
	Penick & Ford, Inc., Chicago, Ill.						
43085	Douglas Corn Gluten Feed	27.91	23.00	1.75	1.00	7.90	8.00
43084	Douglas Corn Oil Cake Meal	21.76	18.00	12.40	8.00	14.60	10.50
	M. C. Peters Mill Co., Omaha, Neb.						
43065	Alfalfa Queen Dairy Feed	19.83	17.50	3.35	3.00	8.20	12.00
40772	Arab Horse Feed	11.54	10.00	3.28	2.00	8.65	15.00
43067	Bargen Scratch Poultry Feed	10.97	10.00	2.80	2.00	2.85	6.00
43068	Economy Scratch Poultry Feed	10.09	10.00	3.25	3.00	3.10	6.00
43066	Lucern Alfalfa Meal	15.27	15.00	1.65	1.50	29.40	30.00
40976	Red Feather Poultry Mash	24.75	20.00	4.80	4.00	5.50	8.00
43070	Red Feather Scratch Poultry Feed	10.88	10.00	4.10	3.00	2.60	6.00
40975	Re-Peter Scratch Feed	13.60	10.00	4.05	3.00	3.95	7.00
	Pillsbury Flour Mills Co., Minneapolis, Minn.						
43012	Durum Wheat Standard B Midds	17.90	14.00	5.05	4.00	6.60	11.00
43014	Durum Wheat Bran	13.86	12.50	4.80	4.00	14.60	11.00
43013	Fancy Mixed Feed	18.52	14.00	4.80	4.00	6.40	10.00
43015	Rye Middlings with Ground Screenings	17.55	15.00	4.40	3.50	6.35	9.00
40798	XX Daisy	21.41	16.00	5.36	4.00	2.45	4.00
43016	Wheat A Middlings	18.12	15.00	4.65	4.00	5.05	8.00
40794	Wheat Bran with Ground Screenings	17.46	13.00	4.90	4.00	9.50	13.00
43017	Wheat Standard B Middlings	17.11	14.00	5.18	4.00	8.40	11.00
	Pfeffer Milling Co., Lebanon, Ill.						
40828	Wheat Middlings	20.09	13.00	5.20	5.00	5.70	2.00
	Charles Pope, Chicago, Ill.						
40953	Dried Beet Pulp	11.41	8.00	.60	.50	18.65	20.00
	Ph. H. Postel Milling Co., Mascoutah, Ill.						
40968	Pure Soft Winter Wheat Bran	20.27	14.40	4.20	2.75	9.25	10.75

No.	Name of Manufacturer and Feeding Stuff.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
Pratt Food Co., Philadelphia, Pa.								
43058	Baby Chick Feed		14.30	11.50	4.45	3.50	1.75	3.80
43059	Chick Size Scratch Feed		11.58	10.00	2.95	2.50	2.55	5.00
43060	Growing Mash with Buttermilk		20.97	17.50	5.70	4.50	5.85	9.00
43062	Intermediate Scratch Feed		10.27	10.00	2.90	2.50	2.40	5.00
43061	Laying Mash with Buttermilk		21.59	19.00	5.10	4.00	6.80	9.00
43063	Scratch Feed		10.18	10.00	3.25	2.50	3.25	5.00
Purity Oats Co., Keokuk, Iowa.								
40713	Hexite Scratch Feed	Easton	12.20	9.00	2.42	2.50	3.10	5.00
40829	Oat Feed	Faneytown	7.46	5.00	2.10	1.75	27.90	32.65
Quaker City Flour Mills Co., Philadelphia, Pa.								
40914	Winter Wheat Bran		18.08	13.00	5.25	3.00	9.85	10.50
40915	Winter Wheat Middlings		19.83	14.00	5.10	4.00	5.30	5.50
Quaker Oats Co., Chicago, Ill.								
40802	Big Q Dairy Ration	Fruitland	22.46	21.00	6.30	4.50	11.70	12.00
43183	Blue Ribbon Developing Feed	Fruitland	10.88	10.00	3.05	3.00	3.12	5.00
40767	Buckeye Feed	Maple Grove	18.43	15.50	4.75	4.50	6.95	11.00
40745	Ful-O-Pep Chick Feed	Frederick	14.48	14.00	3.80	3.50	1.35	3.00
40746	Ful-O-Pep Coarse Chick Feed		10.09	10.00	2.02	2.00	1.90	5.00
40747	Ful-O-Pep Dry Mash	Frederick	23.60	20.00	5.58	4.00	7.10	10.00
40747	Ful-O-Pep Growing Mash	Frederick	23.60	17.00	5.30	5.25	4.65	9.00
43002	Ful-O-Pep Scratch Grains		10.18	9.00	2.04	2.00	1.75	5.00
40830	Green Cross Horse Mixed Feed	New Windsor	15.45	10.00	3.25	2.50	9.75	13.00
43004	Pansy Scratch Grains		10.44	10.00	3.02	2.50	2.75	5.00
40748	Schumacher Feed	Walkersville	12.02	10.00	4.37	3.25	11.10	11.00
43003	Schumacher Calf Meal		21.06	18.00	8.30	8.00	3.02	4.00
43005	Schumacher Little Chick Feed		10.09	10.00	3.40	2.50	2.20	5.00

FEED STUFF ANALYSIS

43005	Schumacher Little Chick Feed	21.06	18.00	8.30	8.00	3.02	4.00
		10.09	10.00	3.40	2.50	2.20	5.00
40749	Scratch Grains	11.41	10.00	1.95	2.50	1.90	5.00
40714	Sterling Creamery Feed	26.68	25.00	6.83	6.00	9.05	12.00
40803	Sugared Schumacher F. S. Feed	13.34	10.00	4.40	3.25	11.65	12.00
43154	Quisenberry Feed Co., Kansas City, Mo. Buttermilk Laying Mash	20.27	18.00	5.25	3.50	6.30	5.00
43021	Ralston Purina Co., St. Louis, Mo. Calf Chow	25.89	27.00	4.10	3.20	3.85	4.50
43022	Chick Chow	11.14	10.00	2.70	2.50	2.35	4.00
43023	Chicken Chowder	19.57	19.00	5.35	4.00	8.85	10.00
43025	Chicken Fatena	14.74	12.00	6.62	6.00	8.95	9.00
43027	Feed with Molasses	9.60	9.30	1.95	1.70	9.80	13.00
43024	Pig Chow	15.71	15.00	3.70	2.50	6.40	9.00
43134	Protena Dairy Feed	18.08	16.50	5.55	3.50	11.05	12.00
40831	Purina Cow Chow Feed	29.13	24.00	5.25	4.00	9.10	12.00
43158	Purina Hen Chow	11.50	10.00	3.20	2.50	3.80	4.00
40833	Purina O-Molene Feed	11.85	9.77	3.80	3.20	7.95	8.00
40867	Purina Pigeon Chow Feed	17.55	12.00	2.21	2.00	3.40	4.00
43026	Steer Fatena	12.50	12.00	2.35	1.80	8.02	10.00
	A. F. Rees, Hanover, Pa. Pure High Protein Tankage for Hogs	39.49	49.25	20.10	17.25	2.55	1.71
40768	Red Wing Milling Co., Red Wing, Minn. Bixota Wheat Middlings	18.78	17.30	5.68	4.00	4.95	8.50
40797	Reindollar Bros. & Co., Taneytown, Md. Rein-o-la Poultry Mash	12.72	12.00	3.02	3.00	4.35	4.00
43099	Richmond Abattoir, Richmond, Va. Meat Meal	65.03	65.00	9.50	5.00	1.77	2.00
43184	F. H. Rittenhouse, Trappe, Md. Bran	15.88	15.50	4.66	4.00	8.50	9.00
40715	Rogers Grain Products Co., Belvidere, Ill. Red Rover Hen Feed	11.06	10.00	3.65	4.00	2.65	12.00
40834	Special Horse and Mule Feed	10.30	10.00	2.30	2.00	10.85	15.00
43033	Rosenbaum Bros., Chicago, Ill. Egg Mash with Dried Buttermilk	25.54	20.00	5.95	5.00	6.15	8.00
40868	Roseboro Horse Feed	10.35	10.00	2.90	2.00	9.15	15.00
43032	Vitality Chick Mash	16.02	16.00	4.15	4.00	5.12	8.00
43185	Vitality Horse Feed	11.67	10.00	3.14	3.00	15.50	15.00
40716	Russell-Miller Milling Co., Minneapolis, Minn. Atta Midline (Wheat)	17.72	15.00	5.65	4.50	7.62	8.50
43155							

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40944	Ryde & Co., Chicago, Ill.		24.48	20.00	5.30	5.00	4.95	7.00
40943	Chick Starter and Growing Mash.....		29.75	25.00	5.35	5.00	6.20	6.75
40945	Cream Calf Meal		23.52	20.00	5.55	4.00	6.60	9.00
43156	Egg Mash							
	Samson & Co., Dallas, Texas.							
	Choice Cottonseed Meal	Laurel	42.38	43.00	10.10	6.00	9.12	10.00
40717	St. Michaels Milling Co., St. Michaels, Md.							
	Bran	Easton	16.23	15.50	4.77	4.00	10.00	9.00
40718	C. S. Schermerhorn & Son, Baltimore, Md.							
	Chick Feed	Easton	14.30		4.90		5.45	
40835	Shane Bros. & Wilson, Philadelphia, Pa.							
	Snow Ball Middlings	Maple Grove	20.18	16.00	4.45	4.00	6.60	9.00
40869	Sheets Elevator Co., Cleveland, Ohio.							
40905	Diamond Poultry Feed	Hagerstown	13.69	10.50	2.81	3.00	3.10	5.00
40870	Haskell Stock Feed		12.29	9.00	6.10	6.00	7.65	9.00
	Horse and Mule Feed	Hagerstown	13.40	8.50	4.02	3.75	7.50	8.50
43054	Sheffield-King Milling Co., Minneapolis, Minn.							
	Fairybow Feed		17.20	15.00	4.90	5.00	9.60	9.50
43055	Fancy Brodflake		16.15	13.50	5.20	4.00	11.50	11.00
43056	Gold Mine Feed		16.94	15.00	5.15	4.50	10.30	10.00
43057	Whitehope Feed		18.52	16.00	4.40	4.50	4.10	8.00
40808	M. L. Shoemaker & Co., Philadelphia, Pa.							
	Swift's Sure Ground Beef Scraps	Walkersville	51.60	55.00	16.75	10.00	1.50	1.00
40844	Snyder Milling Co., Chillicothe, Ohio.							
	Hominy Feed	Westminster	11.58	10.00	7.85	7.00	4.40	6.00
40902	Southern Cotton Oil Co., Charlotte, N. C.							
	Scoco Cottonseed Meal		39.05	36.00	6.60	5.00	14.65	16.00

40871	Southwestern Milling Co., Inc., Kansas City, Mo.	Cumberland	21.50	15.00	5.01	4.20	7.05	8.50
40773	Red Turkey Brown Shorts	Bel Air	19.04	14.50	4.42	4.00	8.65	11.30
	Red Turkey Pure Wheat Bran							
	Red Turkey Pure Wheat Bran							

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	21.50	15.00	5.01	4.20	7.05	8.50
Southwestern Milling Co., Inc., Kansas City, Mo.	19.04	14.50	4.42	4.00	8.65	11.30
Red Turkey Brown Shorts						
Red Turkey Pure Wheat Bran						
Spencer Kellogg & Sons, Inc., Buffalo, N. Y.						
Pure Old Process Linseed Oil Meal	37.64	35.00	5.50	5.00	8.25	10.00
Staley Mfg. Co., Decatur, Ill.						
Corn Gluten Feed	26.32	23.00	2.85	1.00	8.45	8.00
Star Food & Remedy Co., Washington, D. C.						
Milk Mash for Laying Fowls	20.18	18.00	5.30	9.00	12.10	7.00
Scratch Feed for Laying Fowls	11.58	10.00	3.04	4.00	2.75	3.00
Star-Chic-A	15.71	17.00	6.65	5.00	3.77	3.00
Yellow Corn Meal	12.20		3.65		2.55	
D. A. Stickell & Sons, Hagerstown, Md.						
Blue Ridge Chick Feed	11.14	10.00	5.45	2.50	3.95	5.00
Blue Ridge Dairy Feed	23.69	21.00	5.77	4.00	11.85	13.00
Blue Ridge Egg Mash	22.20	16.00	4.45	3.50	9.80	12.00
Buttermilk Hog Ration	19.48	15.00	5.40	4.00	5.30	6.00
Egg Mash	26.24	20.00	5.70	4.00	9.02	10.00
Pure Winter Wheat Bran	14.30	14.00	4.20	4.00	10.47	9.50
Pure Winter Wheat Middlings	17.72	16.00	5.30	4.00	4.95	6.00
Stock Feed	11.32	9.00	4.65	3.75	11.65	12.00
25% Milk Ration	27.29	25.00	7.05	4.50	7.30	10.00
Victor Dairy Feed	15.53	16.00	4.45	4.50	19.02	14.00
Victor Scratch Grains	11.50	10.00	3.10	2.50	2.20	5.00
F. W. Stock & Sons, Hillsdale, Mich.						
Middlings	18.16	16.00	4.45	4.00	4.45	7.00
Chas. M. Struven & Co., Baltimore, Md.						
Pure Ground Fish Meal	59.76	55.00	6.50	4.00	.80	2.00
Suffolk Oil Mill, Suffolk, Va.						
Peanut Meal	44.75	41.00	8.50	6.00	13.75	15.00
Sugarine Co., Peoria, Ill.						
National Dairy Feed	21.59	20.00	5.10	4.50	9.10	12.00
Record Dairy Feed	24.66	24.00	6.25	4.50	12.22	10.00
Swift & Co., Chicago, Ill.						
Digester Tankage	60.90	60.00	8.10	5.00	1.30	3.00
Eureka Scraps	52.65	45.00	15.28	6.00	2.02	3.00
Gromael for Hogs	50.28	50.00	11.52	3.00	2.15	5.00
Laymore Meat and Bone Scraps	45.54	45.00	12.89	6.00	1.45	3.00
Poultry Bone	25.36	25.00	1.70	2.00	.90	3.00
Soluble Blood Flour	92.05	80.00	0.00	0.00	.80	3.00
Cumberland						
Bel Air						
Walkersville						
Bladensburg						
Bladensburg						
Rockville						
Hyattsville						
Bel Air						
Hagerstown						
Hagerstown						
Hagerstown						
Hagerstown						
Myersville						
Myersville						
Hagerstown						
Boyd's						
Emmitsburg						
Woodsboro						
Baltimore						
Baltimore						
Forest Hill						
Walkersville						
Walkersville						
Walkersville						

No.	Name of Manufacturer and Feeding Stuff.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40837	Taylor Commission Co., Atlanta, Ga. Cotton Seed Meal	Boyds	37.91	36.00	7.35	5.50	12.10	14.00
40777	Temtor Corn & Grain Products Co., St. Louis, Mo. Tiger Brand Corn Gluten Feed	Baltimore	24.31	23.00	2.90	2.00	6.02	8.50
40853	Thomas & Co., Frederick, Md. Dairy Feed	Frederick	20.27	16.00	4.85	4.00	7.70	16.00
43174	Dairy Feed	Monrovia	13.78	16.50	3.45	3.50	8.07	16.00
43160	Ground Corn and Oats	Frederick	6.67	3.30	2.15	5.00	21.92	14.00
43161	Molasses Feed	Frederick	7.90	24.00	4.05	3.00	8.55	14.00
43201	Victory Feed	Gaithersburg	31.77	24.00	4.05	3.00	9.25	14.00
40952	Thompson Milling Co., Lockport, N. Y. Angelus Wheat Bran with Ground Screenings	Oakland	20.18	11.00	5.50	3.00	10.25	15.00
40878	Toledo Grain & Milling Co., Toledo, Ohio. Camp's C-O-B-K-Chop Feed	Baltimore	11.76	10.00	4.35	3.50	6.95	9.00
43151	Camp's Scratch Feed	Baltimore	10.62	10.00	3.80	2.50	3.42	5.00
40854	Toledo Seed & Oil Co., Toledo, Ohio. Old Process Oil Meal	Frederick	39.84	33.00	5.70	6.00	9.20	10.00
40754	Ubiko Milling Co., Cincinnati, Ohio. Union Grains Biles Ready Dairy Ration	Woodsboro	28.52	24.00	6.97	5.00	8.50	10.00
43029	U. S. Food Products Corp., New York, N. Y. H. I. L. O. Dairy Ration	Beltsville	25.01	22.00	4.80	5.00	8.50	9.00
43030	Mel O Dairy Ration	Beltsville	23.43	20.00	4.90	5.00	8.65	9.00
40795	65% Horse Feed	Walkersville	10.44	9.00	3.84	2.50	9.70	10.00
40855	Success Dairy Feed	Walkersville	25.10	20.00	5.05	4.00	8.45	9.00
40856	Success Hog Meal	Walkersville	21.06	20.00	7.10	7.00	7.65	5.00
40933	Van Iderstine Co., Long Island City, N. Y. Digester Tankage 50%		54.49	50.00	9.30	1.00	2.02	3.00

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40934	High Protein Meat Scraps	65.28	55.00	11.90	5.00	2.45	3.00
40935	Pure Ground Meat Scraps	44.05	45.00	10.75	5.00	2.80	3.00
40769	Wabash Roller Mills Co., Wabash, Minn.						
40755	Big Jo Pure Bran	14.48	13.00	5.42	3.00	10.05	13.00
	Big Jo Pure Flour Middlings	18.69	15.00	5.60	4.80	2.80	4.10
40811	Washburn-Crosby Co., Minneapolis, Minn.						
43019	Durum Wheat Red Dog Flour	20.45	15.00	6.90	4.00	3.35	4.00
40796	Red Dog Flour (Adrian)	18.52	16.00	4.80	4.00	3.45	4.00
40756	Wheat Bran with Ground Screenings	18.08	13.00	5.25	4.00	9.40	13.00
43020	Wheat Flour Middlings with Ground Screenings	20.09	15.00	5.51	4.00	5.50	8.00
	Wheat Standard Middlings	18.08	14.00	5.85	4.00	8.05	11.00
43039	Weber Flour Mills Corp., Salina, Kansas.						
43041	Tea Table Millrun Wheat Feed	17.90	16.00	4.05	3.50	8.45	9.50
43040	Tea Table Pure Wheat Brown Shorts	18.52	16.00	4.45	3.50	5.10	7.00
43043	Tea Table Pure Wheat Gray Shorts	18.52	16.00	4.27	3.50	5.50	5.50
43042	Tea Table Pure Wheat White Shorts	18.02	14.50	2.95	3.00	4.10	4.50
	Tea Table Wheat Bran and Screenings	17.02	14.50	3.85	3.50	9.70	11.50
40719	Wells-Abbott-Nieman Co., Schuyler, Neb.						
	Pure Wheat Bran	17.64	14.50	4.32	3.50	9.75	10.00
43107	A. C. Westerbelt & Co., Memphis, Tenn.						
	Sun Brand Cotton Seed Meal	36.24	36.00	7.10	5.00	11.20	15.00
43086	Western Grain Products Co., Hammond, Ind.						
43087	Calumet Alfalfa Horse Feed	11.23	10.00	2.90	2.50	11.50	15.00
43088	Calumet Dairy Feed	20.97	20.00	5.70	4.00	13.10	13.50
43089	Calumet Scratch Feed	10.35	10.00	3.10	2.50	3.20	5.00
	Hammond Dairy Feed	17.20	16.50	4.90	4.00	11.55	13.50
40872	Wheeling Steel & Iron Co., Wheeling, W. Va.						
	Refuse Cleaning Mixture	17.90	16.50	6.85	7.50	7.10	8.50
40838	Wilkins Rogers Milling Co., Washington, D. C.						
40897	Greiner Dairy Feed	23.96	20.00	5.35	5.00	10.65	8.00
43202	Grassy Mead Dairy Feed	29.84	26.00	5.85	5.00	8.85	9.00
	Pure Wheat Middlings	16.32	16.00	5.20	4.00	6.15	6.00
43108	Wilson & Co., Chicago, Ill.						
43109	"Red W" Meat Scrap for Poultry	54.06	50.00	10.90	6.00	1.40	5.00
	"Red W" Brand Digester Tankage Meat Meal	59.23	60.00	6.10	6.00	2.75	5.00
43166	Yerxa, Andrews & Thurston, Minneapolis, Minn.						
	Pure Golden Wheat Middlings	17.02	16.00	5.10	5.00	6.02	6.50

Maple Grove
Walkersville

Myersville

Beltsville

Walkersville

Pocomoke City

Baltimore

Cumberland

Derwood

Berwyn

Dickerson

Baltimore

Baltimore

Myersville

DEFINITIONS OF FEEDING STUFFS

(Adopted by the Association of Feed Control Officials of the United States Oct. 27-28, 1921)

Meal is the clean, sound, ground product of the entire grain, cereal or seed which it purports to represent.

Chop is a ground or chopped feed composed of one or more different cereals or by-products thereof. If it bears a name descriptive of the kind of cereals, it must be made exclusively of the entire grains of those cereals.

Ear Corn Chops is corn and cob, chopped, without the husk, with not a greater proportion of cob than occurs in the ear corn in its natural state.

Head Chops consists of the entire head of the grain sorghums, chopped, and should bear the name of the sorghum from which it is made. This includes, among others, kafir head chops, milo head chops, feterita head chops, and sorghum head chops.

Head Stems consists of the head of the grain sorghums, from which the grain has been removed, and should bear the name of the sorghum from which it is made.

Chopped Alfalfa is the entire alfalfa hay, chopped and not ground finely enough to become a meal. It must not contain an admixture of alfalfa straw or other foreign material.

Alfalfa meal is the entire alfalfa hay ground and does not contain an admixture of ground alfalfa straw or other foreign materials.

ANIMAL PRODUCTS

Blood meal is ground dried blood.

Cracklings are the residue after partially extracting the fats and oils from the animal tissues. If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Digester Tankage is the residue from animal tissues, exclusive of hoof and horn, specially prepared for feeding purposes by tanking under live steam, drying under high heat, and suitable grinding, and contains less than 10 per cent. phosphoric acid (P_2O_5).

Digester Meat and Bone Tankage is the residue from animal tissues, exclusive of hoof and horn, specially prepared for feeding purposes by tanking under live steam, drying under high heat, and suitable grinding, and contains more than 10 per cent. phosphoric acid (P_2O_5).

Meat Scrap and Meat Meal are the ground residues from animal tissues, exclusive of hoof and horn, and contains less than 10 per cent. phosphoric acid (P_2O_5). If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Meat and Bone Scrap and Meat and Bone Meal are the ground residues from animal tissues, exclusive of hoof and horn, and contains more than 10 per cent. phosphoric acid (P_2O_5). If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

BARLEY PRODUCTS

Barley Hulls are the outer coverings of the barley.

Barley Feed is the entire by-product resulting from the manufacture of pearl barley from clean barley.

Barley Mixed Feed is the entire offal from the milling or barley flour from clean barley and is composed of barley hulls and barley middlings.

Ground Barley is the entire product obtained by grinding clean sound barley, containing not less than 90 per cent. pure barley and not more than

10 per cent. of other grains, weed seeds and other foreign material and not more than 6 per cent. fiber. Provided that no portion of this stated 10 per cent. of other grains, weed seeds or foreign material shall be deliberately added.

Mixed Feed Barley is the entire product obtained by grinding country run barley containing not less than 75 per cent. pure barley and not more than 25 per cent. of other grains, weed seeds and other foreign material. Provided that no portion of this stated 25 per cent. of other grains, weed seeds or foreign material shall be deliberately added. The ingredients must be stated as barley, other grains, weed seeds and other foreign material.

BREWERS' AND DISTILLERS' PRODUCTS

Brewers' Dried Grains are the properly dried residue from cereals obtained in the manufacture of beer.

Distillers' Dried Grains are the dried residue from cereals obtained in the manufacture of alcohol and distilled liquors. The product shall bear the designation indicating the cereal predominating.

Distillers' Corn Solubles, a by-product from the manufacture of alcohol from corn, is a mash liquor concentrated after the removal of the alcohol and wet grains.

Distillers' Corn and Rye Solubles, a by-product from the manufacture of alcohol from corn and rye, is a mash liquor concentrated after the removal of the alcohol and wet grains.

Distillers' Rye Solubles, a by-product from the manufacture of alcohol from rye, is a mash liquor concentrated after the removal of the alcohol and wet grains.

Malt Sprouts are the sprouts of the barley grain obtained in the malting process. Sprouts derived from any other malted cereal must be designated by the name of that cereal.

BUCKWHEAT PRODUCTS

Buckwheat Shorts or **Buckwheat Middlings** are that portion of the buckwheat grain immediately inside of the hull after separation from the flour.

CORN PRODUCTS

Corn Bran is the outer coating of the corn kernel.

Corn Feed Meal is the by-product obtained in the manufacture of cracked corn, with or without aspiration products added to the siftings. This name is also correctly applied to the by-product obtained in the manufacture of table meal from the whole grain by the non-degerminating process.

Corn Germ Cake is the product obtained in the manufacture of starch, glucose and other corn products and consists of the germ from which part of the corn oil has been extracted.

Corn Germ Meal is ground corn germ cake.

Grits are the hard, flinty portions of Indian corn containing no bran or germ.

Corn Gluten Meal is that part of commercial shelled corn that remains after the separation of the larger part of the starch, the germ and the bran, by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

Corn Gluten Feed is that portion of commercial shelled corn that remains after the separation of the larger part of the starch and the germs by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

Maltose Process Corn Gluten Feed is the dried residue from degermed corn, after removal of starch in the manufacture of malt syrup.

Hominy Feed, Hominy Meal or Hominy Chop is the kiln-dried mixture of the mill run bran coating, the mill run germ, with or without a partial extraction of the oil and a part of the starchy portion of the white corn kernel obtained in the manufacture of hominy, hominy grits and corn meal by the degerminating process.

Yellow Hominy Feed, Yellow Hominy Meal or Yellow Hominy Chop is a kiln-dried mixture of the mill-run bran coating, the mill run germ, with or without a partial extraction of the oil and a part of the starchy portion of the yellow corn kernel obtained in the manufacture of yellow hominy grits and yellow corn meal by the degerminating process.

OIL CAKE

Oil Cake is the cake obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "oil cake."

Ground Oil Cake is the product obtained by grinding oil cake. When used alone, the term "ground oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "ground oil cake."

COTTONSEED PRODUCTS

Cottonseed Meal is a product of the cottonseed only, composed principally of the kernel with such portion of the hull as is necessary in the manufacture of oil; provided that nothing shall be recognized as cottonseed meal that does not conform to the foregoing definition and that does not contain at least 36 per cent. of protein.

41.12 Per Cent. Protein Cottonseed Meal, Choice Quality, must be finely ground, not necessarily bolted, perfectly sound and sweet in odor, yellow, free from excess of lint, and must contain at least 41.12 per cent. crude protein, equivalent to 8 per cent. of ammonia.

Cottonseed Meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

38.56 Per Cent. Protein Cottonseed Meal, Prime Quality, must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, yellow not brown or reddish, free from excess of lint, and must contain at least 38.56 per cent. crude protein equivalent to 7½ per cent. of ammonia.

Cottonseed Meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

36 Per Cent. Protein Cottonseed Meal, Good Quality, must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, and must contain at least 36 per cent. crude protein, equivalent to 7 per cent. of ammonia.

Cottonseed Meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

Cottonseed Feed is a mixture of cottonseed meal and cottonseed hulls, containing less than 36 per cent. of protein.

Cold Pressed Cottonseed is the product obtained from the subjection of the whole undecorticated cottonseed to the cold pressure process for the extraction of oil and includes the entire cottonseed less the oil extracted.

Ground Cold Pressed Cottonseed is the product obtained by grinding cold pressed cottonseed.

LINSEED AND FLAX PRODUCTS

Linseed Meal is the ground product obtained after extraction of part of the oil from ground flaxseed screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall contain less than six per cent. of weed seeds and other foreign materials and provided further that no portion of the stated six per cent. of weed seeds and other foreign materials shall be deliberately added.

Oil Meal is the ground product obtained after the extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from seeds which have been screened and cleaned of weed seeds and other foreign materials by the most improved commercial purposes. When used alone the term "Oil Meal" shall be understood to designate linseed meal as defined. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to the words "oil meal."

Old Process Oil Meal is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "Old Process Oil Meal" shall be understood to designate linseed meal as defined, made by the old process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "old process oil meal."

New Process Oil Meal is the ground product obtained after extraction of part of the oil by crushing, heating and the use of solvents from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "New Process Oil Meal" shall be understood to designate linseed meal as defined, made by the new process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "new process oil meal."

Flax Plant By-Product is that portion of the flax plant remaining after the separation of the seed, the bast fiber and a portion of the shives, and consists of flax shives, flax pods, broken and immature flax seeds, and the cortical tissues of the stem.

Ground Flaxseed or Flaxseed Meal is the product obtained by grinding flaxseed which has been screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall contain less than four per cent. of weed seeds and other foreign materials, and provided further that no portion of the stated four per cent. of weed seeds and other foreign materials shall be deliberately added.

Unscreened Flaxseed Oil Feed Cake is the product obtained by extraction of part of the oil from unscreened flaxseed by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents. The ingredients shall be stated as partially extracted flaxseed and foreign seeds (wheat, wild buckwheat, pigeon grass, wild mustard, etc.)

Ground Unscreened Flaxseed Oil Feed is the ground unscreened flaxseed oil feed cake.

Screenings Oil Feed is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from the smaller imperfect grains, weed seeds and other foreign materials, having feeding value, separated in cleaning the grain. The name of the grain from which the screenings are separated shall be prefixed to "screenings oil feed."

OAT PRODUCTS

Oat Groats are the kernels of the oat.

Oat Hulls are the outer coverings of the oat.

Oat Middlings are the floury portions of the oat groat obtained in the milling of rolled oats.

Oat Shorts are the covering of the oat grain lying immediately inside the hull, being a fuzzy material carrying with it considerable portions of the fine floury part of the groat obtained in the milling of rolled oats.

Clipped Oat By-Product is the by-product obtained in the manufacture of clipped oats. It may contain the light chaffy material broken from the end of the hulls, empty hulls, light, immature oats and dust. It must not contain an excessive amount of oat hulls.

PEANUT PRODUCTS

Peanut Oil Cake is the residue after the extraction of part of the oil by pressure or solvents from peanut kernels.

Peanut Oil Meal is ground peanut oil cake.

Unhulled Peanut Oil Feed is the ground residue obtained after extraction of part of the oil from whole peanuts, and the ingredients shall be designated as "**Peanut Meal and Hulls.**"

RICE PRODUCTS

Rice Bran is the pericarp or bran layer of the rice, with only such quantity of hull fragments as is unavoidable in the regular milling of rice.

Rice Hulls are the outer coverings of the rice.

Rice Polish is the finely powdered material obtained in polishing the kernel.

RYE PRODUCTS

Rye Middlings or Rye Feed is the by-product obtained from the manufacture of ordinary "100 per cent." rye flour from cleaned and scoured rye grain.

Rye Red Dog is a mixture of low-grade flour, fine particles of bran and the fibrous offal from the "tail of the mill."

VELVET BEAN PRODUCTS

Velvet Bean Meal is ground velvet beans containing only an unavoidable trace of hulls or pods.

Ground Velvet Bean and Pod is the product derived by grinding velvet beans "in the pod." It contains no additional pods or other materials.

WHEAT PRODUCTS

Wheat Bran is the coarse outer coating of the wheat kernel as separated from cleaned and scoured wheat in the usual process of commercial milling.

Standard Middlings consists mostly of fine particles of bran, germ and very little of the fibrous offal obtained from the "tail of the mill." This product must be obtained in the usual commercial process of milling.

Flour Middlings shall consist of standard middlings and red dog flour combined in the proportions obtained in the usual process of milling.

Red Dog Flour consists of a mixture of low-grade flour, fine particles of bran and the fibrous offal from the "tail of the mill."

Brown Shorts (Red Shorts) consists mostly of the fine particles of bran, germ and very little of the fibrous offal obtained from the "tail of the mill." This product must be obtained in the usual commercial process of milling.

Gray Shorts (Gray Middlings or Total Shorts) consists of the fine particles of the outer bran, the inner bran or bee-wing bran, the germ and the offal or fibrous material obtained from the "tail of the mill." This product must be obtained in the usual process of commercial milling.

White Shorts or **White Middlings** consists of a small portion of the fine bran particles and the germ and a large portion of the fibrous offal obtained from the "tail of the mill." This product must be obtained in the usual process of flour milling.

Wheat Mixed Feed (Mill Run Wheat Feed) consists of pure wheat bran and the gray or total shorts or flour middlings combined in the proportions obtained in the usual process of commercial millings.

Wheat Bran and Standard Middlings consists of the two commodities as defined above, mixed in the proportions obtained in the usual process of commercial milling.

Screenings consists of the smaller imperfect grains, weed seeds and other foreign materials, having feeding value, separated in cleaning the grain.

Scourings consists of such portions of the cuticle, brush, white caps, dust, smut and other materials as are separated from the grain in the usual commercial process of scouring.

(Note) If to any of the wheat or rye by-product feeds there should be added screenings or scourings—as above defined, either ground or unground, bolted or unbolted, such brand shall be so registered, labeled and sold as clearly to indicate this fact. The word "Screenings" or "Scourings" as the case may be, shall appear as a part of the name or brand and shall be printed in the same size and face of type as the remainder of the brand name. When the word "Screenings" appears it is not necessary to show also on the labeling the word "Scourings."

MISCELLANEOUS PRODUCTS

Dried Beet Pulp is the dried residue from sugar beets which have been cleaned and freed from crowns, leaves and sand, and which have been extracted in the process of manufacturing sugar.

Cocoanut Oil Meal or "Copra Oil Meal" is the ground residue from the extraction of part of the oil from the dried meat of the cocoanut.

Fish Meal is the clean, dried ground tissues of undecomposed fish, with or without the extraction of part of the oil.

Fish Residue Meal is the clean undecomposed residue from the manufacture of glue or other fishery products from non-oily fish.

Ivory Nut Meal is ground ivory nuts.

Palm Kernel Oil Meal is the ground residue from the extraction of part of the oil by pressure or solvents from the kernel of the fruit of *Elaeis guineensis* or *Elaeis malanococca*.

Yeast or Vinegar Dried Grains are the properly dried residue from the mixture of cereals, malt and malt sprouts (sometimes cottonseed meal) obtained in the manufacture of yeast or vinegar, and consists of corn or corn and rye from which most of the starch has been extracted, together with malt added during the manufacturing process to change the starch to sugars, and malt sprouts (sometimes cottonseed meal) added during the manufacturing process to aid in filtering the residue from the wort and serve as a source of food supply for the yeast.

FEED STUFF LAW OF MARYLAND

(In effect June 1, 1920.)

80. The term "Commercial Feeding Stuffs" shall be held to include all feeding stuffs used for feeding live stock and poultry, except the following:

- (a) Whole seeds or grains.
- (b) The unmixed meals made directly from and consisting of the entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo.
- (c) Whole hays, straws, cottonseed hulls and corn stover, when unmixed with other materials.
- (d) All other materials containing 60 per centum or more of water.

81. Every lot or parcel of commercial feeding stuffs sold, offered or exposed for sale or distributed within this State shall have printed thereon or affixed thereto a tag or label, in a conspicuous place on the outside thereof, containing a legible and plainly printed statement in the English language, clearly and truly certifying:

- (a) The net weight of the contents of the package, lot or parcel;
- (b) The name, brand or trade mark;
- (c) The name and principal address of the manufacturer or person responsible for placing the commodity on the market;
- (d) The minimum per centum of crude protein;
- (e) The minimum per centum of crude fat;
- (f) The maximum per centum of crude fiber;
- (g) The specific name of each ingredient used in its manufacture.

82. Before any manufacturer, importer, jobber, firm, association, corporation or person shall sell, offer or expose for sale or distribute in this State any commercial feeding stuffs, he or they shall file with the State Chemist, as appointed by the State Board of Agriculture, a certified copy of the statement specified in Section 81, with the exception of sub-division (a), for each brand of commercial feeding stuffs; said certified copy to be accompanied, when the state chemist shall so request, by a sealed package containing at least one pound of the commercial feeding stuffs to be sold, offered or exposed for sale or distributed in this State, and the company or person furnishing said sample shall thereupon certify that the said sample is representative of the commercial feeding stuffs, offered for registration.

83. Each and every manufacturer, importer, jobber, firm, association, corporation or person manufacturing, selling, offering or exposing for sale or distributing any commercial feeding stuffs as defined in Section 80 of this Article, shall pay to the Maryland State College of Agriculture an annual inspection fee of twenty dollars (\$20) for each brand of commercial feeding stuff sold, offered or exposed for sale or distributed in this State and receive therefore a license to sell such commercial feeding stuffs until the first day of January next following; said fees to constitute a fund for the payment of the cost of the inspections, sampling, analysis and other expenses incident to putting into effect the provisions of this Act. Whenever any commercial feeding stuffs, as defined in Section 80, is offered or exposed for sale in bulk or otherwise stored, the manufacturer, importer, jobber, firm, association, corporation or person keeping the same for sale shall keep on hand tags upon which shall be printed the statement required by the provisions of Section 81, and when such feeding stuffs is sold at retail in bulk or in packages belonging to the purchaser, the manufacturer, importer, jobber, firm, association, corporation or person shall furnish the purchaser with sufficient tags for said packages, and, upon request, with a card or cards upon which appears the statement required by the provisions of Section 81.

84. The state chemist shall have power to refuse to register any commercial feeding stuff under a name, brand or trade mark which would be misleading or deceptive, or which would tend to mislead or deceive as to the materials of which it is composed, or when the specific name of each and all ingredients used in its manufacture are not stated. He shall also have the power to refuse to register more than one commercial feeding stuff under the same name or brand when offered by the same manufacturer, importer, jobber, firm, association, corporation or person. Should any commercial feeding stuffs be registered in this State, and it is afterwards discovered that such registration is in violation of any of the provisions of this Act, the state chemist shall have the power to cancel such registration. The state chemist shall have the power to refuse to allow any manufacturer, importer, jobber, firm, association, corporation or person to lower the guaranteed analysis or change the ingredients of any brand of his or their commercial feeding stuffs during the term for which registered, unless satisfactory reasons are presented for making such change or changes.

85. Whenever a manufacturer, importer, jobber, firm, association, corporation or person manufacturing or selling a brand of commercial feeding stuffs shall have filed the statement required by Section 82 and paid the inspection fee, as

required by Section 83 of this Act, no other agent, importer, jobber, firm, association, corporation or person shall be required to file such statement or pay such fee upon such brand.

86. The state chemist is authorized in person or by deputy to have free access to all places of business, mills, buildings, carriages, cars, vessels and parcels of whatsoever kind used in manufacture, transportation, importation, sale or storage of any commercial feeding stuffs, and shall have the power and authority to open any parcel containing or supposed to contain any commercial feeding stuffs, and to take therefrom samples for analysis, and said state chemist shall annually cause to be analyzed at least one sample so taken of every commercial feeding stuffs that is found, sold, offered or exposed for sale or distributed in this State, and the result of such analysis, together with such additional information as the said state chemist may deem advisable, shall be transmitted to the manufacturer or person responsible for placing the commodity on the market, and shall be published in reports or bulletins from time to time.

87. If it appears that any of the provisions of this Act have been violated, the state chemist shall certify the facts to the proper prosecuting attorney and furnish that officer with a copy of the result of the analysis or other examination of such feeding stuffs duly authenticated by the analyst or other officer making the determination, under the oath of such officer; provided, that if it shall appear from any such examination that any of the provisions of this Act have been violated the state chemist shall cause notice to be given to the manufacturer or dealer from whom said sample was taken; any party so notified shall be given an opportunity to be heard in his defence under such rules and regulations as may be prescribed by the state chemist before the facts shall be certified to the proper prosecuting attorney. In all prosecutions arising under the provisions of this Act, certificates of the analyst or other officer making the examination or analysis, when duly sworn to by such officer, shall be prima facie evidence of the fact or facts therein certified.

88. Any manufacturer, importer, jobber, firm, association, corporation or person who shall sell, offer or expose for sale, or distribute in this State, any commercial feeding stuffs without having attached thereto or printed thereon the analysis and statement as required by the provisions of this Act, or who shall impede, obstruct, hinder or otherwise prevent or attempt to prevent said state chemist or his authorized agent in the performance of his duty in connection with the provisions of this Article, or who shall sell, offer or expose for sale or distribute in this State any commercial feeding stuffs as defined in Section 80, without complying with the requirements of the provisions of this Act, or who shall sell, offer or expose for sale or distribute in this State any commercial feeding stuffs which contains a smaller per centum of crude protein or crude fat or a larger per centum of crude fiber than is certified to be contained therein, or who shall fail to properly state the specific name of each and every ingredient used in its manufacture, shall be deemed guilty of a violation of the provisions of this Article and upon conviction thereof shall be fined not more than one hundred dollars (\$100.00) for the first violation and not less than one hundred dollars (\$100.00) for each subsequent violation. Any manufacturer, importer, jobber, firm, association, corporation or person who shall mix or adulterate any feeding stuffs with any substance or substances injurious to the health of live stock or poultry shall be deemed guilty of a violation of the provisions of this Act, and in addition to the penalty provided in this section, the lot of feeding stuffs shall be subject to seizure, condemnation and sale as the Court may direct; the proceeds from such sale to be paid into the treasury of the Maryland State College of Agriculture to be added to the fund provided for in Section 83. The Court may, in its discretion, release the feeding stuffs so seized when the requirements of the provisions of this Act have been complied with, and upon payment of all costs and expenses incurred by the State in any proceedings connected with such seizure.

88-A. If it shall be found upon analysis or other examination that any feeding stuff is deficient in one or more valuable constituent or that an inferior product has been substituted in whole or in part the purchaser or purchasers shall be entitled to recover as damages a sum equal to twice the commercial value of said deficiency, to be determined by reasonable rules to be published by said state chemist with the approval of the State Board of Agriculture.

88-B. The Maryland State Board of Agriculture is hereby empowered to enforce the provisions of this Act and to prescribe the form of tags or labels to be used on commercial feeding stuff and to prescribe and enforce such rules and regulations relating to the sale of commercial feeding stuffs as it may deem necessary to carry into effect the full intent and meaning of this Act.

Sec. 3. *And be it further enacted*, That all laws or parts of laws in conflict with the provisions of this Act are hereby repealed.

For directions in regard to the practical use of feeds the following bulletins, which will be sent free upon application to the U. S. Department of Agriculture, Washington, D. C., are recommended:—
Farmers' Bulletins:

- 22. Feeding Farm Animals.
- 170. Principles of Horse Feeding.
- 205. Pig Management.
- 287. Poultry Management.
- 411. Feeding Hogs in the South.
- 743. Feeding Dairy Cows.
- 777. Dairy Calves.
- 810. Equipment for Farm Sheep Raising.
- 840. Farm Sheep Raising for Beginners.
- 873. Utilization of Farm Wastes in Feeding Live Stock.
- 985. Hog Farming.
- 1030. The Feeding of Horses.
- 1067. Feeding Hens for Egg Production.
- 1111. Management of Growing Chicks.
- 1179. Feeding Cotton Seed Products.
- 1181. Raising Sheep on Temporary Pastures.
- 1218. Beef Production in the Corn Belt.

Department Bulletin No. 459, Computation of Rations for Farm Animals.

Department Bulletin No. 1024, Feeding Experiments with Grade Beef Cows Raising Calves.

Department Bulletin No. 1042, Effect of Winter Rations on Pasture Gains of Calves.

The following books are highly recommended. Order from the publishers at the prices named:

Feeds and Feeding, Abridged, Henry & Morrison. Published by the Henry-Morrison Company, Madison, Wis., Price \$1.75.

Feeding of Animals, W. H. Jordan. Published by the Macmillan Company, New York, Price \$1.75.

The Nutrition of Farm Animals, H. P. Armsby. Published by the Macmillan Co., New York, Price \$2.60.